

## Contents

### Short communications

- The effect of Ag and Cu underlayer on the  $L1_0$  ordering FePt thin films  
X.-H. Xu, H.-S. Wu, F. Wang and X.-L. Li 1
- Substrate temperature dependence of series resistance in Al/SnO<sub>2</sub>/p-Si (111) Schottky diodes prepared by spray deposition method  
S. Karadeniz, N. Tuğluoğlu and T. Serin 5
- Luminescent multilayer film based on mixed-addenda polyoxometalates and polyethyleneimine by layer-by-layer assembly  
H. Ma, J. Peng, B. Zhou, Z. Han and Y. Feng 14
- Effects of adsorbates on the field emission current from carbon nanotubes  
K.S. Yeong and J.T.L. Thong 20
- Low temperature deposition of crystalline chromium phosphide films using dual-source atmospheric pressure chemical vapour deposition  
C.S. Blackman, C.J. Carmalt, T.D. Manning, I.P. Parkin, L. Apostolico and K.C. Molloy 24
- Atomic force microscopy analysis of different surface treatments of Ti dental implant surfaces  
R.V. Bathomarco, G. Solorzano, C.N. Elias and R. Prioli 29
- Nitridation effects on the oxidation mechanisms of an ods Fe–Al intermetallic alloy  
F. Pedraza, J.L. Grosseau-Poussard and J.F. Dinhut 35
- Pulsed laser deposition of InP thin films on sapphire(1 0 0) and GaAs(1 0 0)  
M.A. Hafez, K.A. Elamrawi and H.E. Elsayed-Ali 42
- Conductive line preparation on resin surfaces by laser micro-cladding conductive pastes  
X. Li, H. Li, J. Liu, X. Qi and X. Zeng 51
- Surface properties of a coke-free Sn doped nickel catalyst for the CO<sub>2</sub> reforming of methane  
Z. Hou, O. Yokota, T. Tanaka and T. Yashima 58
- Investigation of the PECVD TiO<sub>2</sub>–Si(1 0 0) interface  
P.R. McCurdy, L.J. Sturgess, S. Kohli and E.R. Fisher 69
- Effects of oxidizing agent and hydrodynamic condition on copper dissolution in chemical mechanical polishing electrolytes  
J.-C. Chen, S.-R. Lin and W.-T. Tsai 80
- Growth and characteristics of La<sub>2</sub>O<sub>3</sub> gate dielectric prepared by low pressure metalorganic chemical vapor deposition  
J.-B. Cheng, A.-D. Li, Q.-Y. Shao, H.-Q. Ling, D. Wu, Y. Wang, Y.-J. Bao, M. Wang, Z.-G. Liu and N.-B. Ming 91
- Use of effective medium theory to model the effect of the microstructure on dc conductivity of nano-titanium films  
H. Du, H. Chen, J. Gong, T.G. Wang, C. Sun, S.W. Lee and L.S. Wen 99
- A study on the quantitative determination of through-coating porosity in PVD-grown coatings  
S.H. Ahn, J.H. Lee, H.G. Kim and J.G. Kim 105

AES, EELS and XPS characterization of Ti(C, N, O) films prepared by PLD using a Ti target in N <sub>2</sub> , CH <sub>4</sub> , O <sub>2</sub> and CO as reactive gases G. Soto	115
Single-crystalline growth of CoSi <sub>2</sub> by refractory-interlayer-mediated epitaxy O. Akhavan, A.Z. Moshfegh, S.J. Hashemifar and R. Azimirad	123
Absorption kinetics of thin Al films on quasicrystalline Al-Pd-Mn R. Lüscher, M. Erbudak, T. Flückiger and Y. Weisskopf	129
Formation of silver nanoparticles in an acid-catalyzed silica colloidal solution Z.-J. Jiang, C.-Y. Liu and Y. Liu	135
Kinetics of dissociative hydrogen adsorption on the (1 0 0) nickel single crystal face: a statistical rate theory approach T. Panczyk and W. Rudzinski	141
Investigation on dispersion of optical constants of Gd <sub>2</sub> O <sub>3</sub> films by phase modulated spectroscopic ellipsometry D. Bhattacharyya, A. Biswas and N.K. Sahoo	155
Electrocodeposition behavior of Ni-SiC composite under different shaped waveforms F. Hu and K.C. Chan	163
Influence of surface roughness on space charge limited emission M.D. Nijkerk and P. Kruit	172
The growth morphology and crystallinity of electroless NiP deposition on silicon T.-K. Tsai and C.-G. Chao	180
Epitaxial growth of YSZ films prepared by pulsed injection MOCVD G. Garcia, J. Santiso, J.A. Pardo and A. Figueras	191
Role of island corner rounding in the morphology transition of the submonolayers grown on metal (1 1 0) surfaces Z.-J. Liu and Y.G. Shen	197
Effects of the shape properties of talc and quartz particles on the wettability based separation processes C. Hıçyılmaz, U. Ulusoy and M. Yekeler	204
Studies of surface resistance of copper(II) phthalocyanine thin films by using a near-field scanning microwave microscope M. Park, H. Yoo, S. Yun, E. Lim, K. Lee, C.H. Chang, M.K. Joo, I.J. Lee, J.-y. Kim and B. Friedman	213
The use of non-contact AFM with nanoindentation techniques for measuring mechanical properties of carbon nitride thin films S. Chowdhury and M.T. Laugier	219
Significant improvement of adhesion between gold thin films and a polymer W.T. Li, R.B. Charters, B. Luther-Davies and L. Mar	227
The influence of the Q-switched and free-running Er:YAG laser beam characteristics on the ablation of root canal dentine E. Papagiakoumou, D.N. Papadopoulos, M.G. Khabbaz, M.I. Makropoulou and A.A. Serafetinides	234
CO <sub>2</sub> laser-induced structure changes on an alumina-mullite-zirconia refractory A.H. Wang, W.Y. Wang, C.S. Xie, W.L. Song, D.W. Zeng and J.H. Hu	244
Temperature sensitivity of resistance of VO <sub>2</sub> polycrystalline films formed by modified ion beam enhanced deposition J. Li and N. Yuan	252
Growth, microstructure and mechanical properties of microarc oxidation coatings on titanium alloy in phosphate-containing solution Y. Wang, T. Lei, B. Jiang and L. Guo	258
Activation of wood surfaces for glue bonds by mechanical pre-treatment and its effects on some properties of veneer surfaces and plywood panels İ. Aydın	268

The effect of damage accumulation behaviour on ablation thresholds and damage morphology in ultrafast laser micro-machining of common metals in air P.T. Mannon, J. Magee, E. Coyne, G.M. O'Connor and T.J. Glynn	275
The defect-related photoluminescence from Si ion-beam-mixed SiO <sub>2</sub> /Si/SiO <sub>2</sub> films J.H. Son, H.B. Kim, C.N. Whang and K.H. Chae	288
Formation of amorphous and crystalline gallium oxide nanowires by metalorganic chemical vapor deposition H.W. Kim and N.H. Kim	294
Preparation of surface bound silver nanoparticles on polyimide by surface modification method and its application on electroless metal deposition Y. Li, Q. Lu, X. Qian, Z. Zhu and J. Yin	299
Optical properties of crystalline and non-crystalline iron oxide thin films deposited by spray pyrolysis A.A. Akl	307
Temperature dependence of current-voltage characteristics of Ag/p-SnSe Schottky diodes N. Tuğluoğlu, S. Karadeniz, M. Şahin and H. Şafak	320
Tribological rutile-TiO <sub>2</sub> coating on aluminium alloy Y. Sun	328
Adsorption of polyelectrolyte multilayers on plasma-modified porous polyethylene G. Greene and R. Tannenbaum	336
Photoluminescence properties of morin and lysozyme molecules absorbed on anodic porous alumina membrane R. Jia, Y. Shen, H. Luo, X. Chen, Z. Hu and D. Xue	343
Analysis of amine contamination on silicon oxide surfaces using ToF-SIMS D. Lu, Z.-Q. Mo, Z.-X. Xing and D. Gui	352
Polarity dependent Al-Ti contacts to 6H-SiC B. Veisz and B. Pécz	360
Structural and optical characterization of Zn doped CdSe films G. Perna, V. Capozzi, M. Ambrico, V. Augelli, T. Ligonzo, A. Minafra, L. Schiavulli and M. Pallara	366
Gaussian distribution of inhomogeneous barrier height in Ag/p-Si (1 0 0) Schottky barrier diodes S. Acar, S. Karadeniz, N. Tuğluoğlu, A.B. Selçuk and M. Kasap	373
Magnesium alloys (WE43 and ZE41) characterisation for laser applications S. Ignat, P. Sallamand, D. Grevey and M. Lambertin	382
Gas phase analysis of CO interactions with solid surfaces at high temperatures C. Anghel, E. Hörlund, G. Hultquist and M. Limbäck	392
Comparison of planar inductively coupled plasma etching of GaAs in BCl <sub>3</sub> , BCl <sub>3</sub> /Ar, and BCl <sub>3</sub> /Ne J.W. Lee, Y.T. Lim, I.K. Baek, S.Y. Yoo, G.S. Cho, M.H. Jeon, J.Y. Leem and S.J. Pearton	402
Co/Si(1 1 1) and Co/Si(1 1 1)-H interfaces: a comparative core-level photoemission study R. Flammini, F. Wiame, R. Belkhou and A. Taleb-Ibrahimi	411
Author Index	I
Subject Index	V